

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1 - 7 Cancelled.

8. (previously presented) A method for data transmission from an image array comprising the steps of:

- providing an X by Y array of detector elements;
- identifying a predetermined feature;
- examining the array elements for presence of the predetermined feature;
- defining a pixel set within a fovea associated with one or more elements of the array in which the predetermined feature is present;
- agglomerating elements outside of the fovea to create super-pixels;
- reading a data value from each of the foveal pixels and super-pixels in the array;

and,

- analyzing the data values for temporal data content;
- providing a plurality of additional arrays comprising 12 arrays spaced circumferentially at substantially equal angles around the X by Y array;
- detecting the motion of a focused element of background image from one pixel to another pixel separated by a predefined distance in a circumferential array;
- calculating velocity based on the motion detection;
- spatially integrating calculated velocities for adjacent elements of the circumferential array;
- providing the integrated signal for modifying the foveal pixel set definition; and,
- modifying the definition of the foveal pixel set in response to the measured responses of the circumferential arrays.

9. (original) A method as defined in claim 8 wherein the step of detecting comprises the steps of:

- measuring propagation of an edge by adjacent pixels in the circumferential array;

and

- synchronizing the measured edges.

10. (withdrawn) An integrated on-chip variable acuity imager array comprising:
a plurality of image elements arranged in an X by Y array, each of the elements including a detector and a charge integration capacitor;
means for connecting the charge integration capacitor of each element to the charge integration capacitor of a left adjacent element responsive to a first control signal;
means for connecting the charge integration capacitor of each element to the charge integration capacitor of an upper adjacent element responsive to a second control signal;
means for selectively generating the first control signal for each element in a dynamically defined super-pixel;
means for selectively generating the second control signal for each element in the dynamically defined super-pixel;
means for dynamically defining at least one super-pixel;
means for reading the charge integration capacitor of each element not receiving a control signal and for reading the charge integration capacitor of a master element in each super-pixel, the master element being the leftmost and uppermost element in the super pixel.
11. (withdrawn) An integrated on-chip variable acuity imager array as defined in claim 10 wherein the means for selectively generating the first and second control signals comprise unit cell static RAMs and the means for dynamically defining the at least one super-pixel comprises:
means for identifying a predetermined feature;
means for defining a foveal pixel set of elements responsive to the identifying means;
means for defining at least one super-pixel of elements outside the foveal pixel set;
means for storing an indicator for the first control signal in the associated RAM for each element in the super-pixel which is not leftmost; and
means for storing an indicator for the second control signal in the associated RAM for each element in the super-pixel which is not uppermost.

12. (withdrawn) An integrated on-chip variable acuity imager array as defined in claim 11 further comprising:

- a plurality of motion sensing arrays circumferentially spaced around the X by Y array, each motion sensing array having a plurality of elements substantially tangentially oriented to the X by Y array;

- an edge detector associated with each element, each edge detector connected to adjacent edge detectors for elements of the motion sensing array;

- means for synchronizing a signal received connected to each edge detector, the synchronizing means connected for transmission of the signal;

- means for computing velocity associated with each edge detector based on the signal received from the synchronizing means for the associated edge detector and the synchronizing means for each adjacent edge detector;

- means for connecting the velocity computing means for spatial integration of the computed velocities to provide a velocity vector; and,

- wherein the means for defining the foveal pixel set is responsive to the velocity vector.

13. (withdrawn) An integrated on-chip variable acuity imager array as defined in claim 12 wherein the plurality of motion arrays comprises 12 motion arrays spaced at substantially equal angles around the circumference of the X by Y array.

14. (withdrawn) An integrated on-chip variable acuity imager array as defined in claim 11 further comprising means for storing the RAM contents for the elements of the array in conjunction with storage of an output for each element from the sample and hold reading means.